

CA

28

Calculation of the molecular weight of cellulose from the
viscosity of its osmotic solutions. V. I. Ivanov, O.
P. Golova, and B. A. Zakharenko. *Inten. Akad. Nauk*
Sovetsk. Khim. Nauk 1960, 408-11. — Discussion of
the interpretation of viscometric data for cellulose, based on
data of Schell, et al. (C.A. 37, 582U) and of Golova and
Ivanov (C.A. 40, 1643). J. P. Danchy

1451

GOLOVA, O.P.; IVANOV, V.I.; MAYAT, N.S.

Oxidative breakdown of polygalaturonic acid. Doklady Akad. Nauk S.S.S.R.
86, 1113-16 '52. (MLRA 5:11)
(CA 47 no.22:12251 '53)

GOLOVA, O. P., and MAYAT, N.S.

"Oxidation processes in pulp manufacturing," a paper presented at the 9th Congress on the Chemistry and Physics of High Polymers, 28 Jan-2 Feb 57, Moscow, Forest Research Inst.

B-3,084,395

GOLOVA, O.P.; ANDRIYEVSKAYA, Ye.A.; PAKHOMOV, A.M.; MERLIS, N.M.

Transformations of cellulose at high temperatures. Report No.3:
On formation of levoglucosan from glucose. Izv.AN SSSR.Otd.
khim.nauk no.3:389-391 Mr '57. (MLRA 10:5)

1.Institut organicheskoy khimii im. N.D. Zelinskogo Akademii nauk
SSSR.

(Cellulose) (Levoglucosan)

GOLOVA, O.P.; PAKHOMOV, A.M.; NIKOLAYEVA, I.I.

Transformation of cellulose at high temperatures. Report No.4:
Effect of the polymerisation degree of cellulose on the formation
of levoglucosan. Izv.AN SSSR Otd.khim.nauk no.4:519-521 Ap '57.
(MIRA 10:11)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.
(Polymerization) (Cellulose) (Levoglucosan)

Golova, O.P.

PAKHOMOV, A.M.; GOLOVA, O.P.; NIKOLAYEVA, I.I.

Thermal decomposition of trimethylcellulose in a vacuum. Izv.
AN SSSR Otd.khim.nauk no.4:521-523 Ap '57. (MIRA 10:11)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.
(Thermochemistry) (Cellulose)

Golova, O.P.

MERLIS, N.M.; GOLOVA, O.P.; SALDAZHE, K.M.; NIKOLAYEVA, I.I.

Application of anionites for removing substances concomitant to
levoglucosan from the products of thermal decomposition of cellulose
in vacuum. Izv.AN SSSR.Otd.khim.nauk. no.7:880-881 J1 '57.

(MIRA 10:10)

1.Institut organicheskoy khimii im. N.D. Zelinskogo AN SSSR.
(Ion exchange) (Levoglucosan) (Thermochemistry)

AUTHORS: Golova, O.P., Pakhomov, A.M., Andriyevskaya, Ye.A. 62-12-16/20

TITLE: The Transformation of Cellulose at Increased Temperatures
(Prevrashcheniya tsellyulozy pri povyshennykh temperaturakh)
Information Nr 6. The Influence Exercised by the Addition of Levoglucosan in the Thermal Decomposition of Cellulose in the Vacuum
(Sobshcheniye 6. Vliyaniye dobavki glyukozy na obrazovaniye levoglyukozana pri termoraspade tsellyulozy v vakuumе).

PERIODICAL: Izvestiya AN SSSR Otdeleniye Khimicheskikh Nauk, 1957, Nr 12, pp. 1499-1500 (USSR)

ABSTRACT: Previously carried out investigations led to interesting observations concerning the influence exercised on the yield of levoglucosan, the physical structure of cellulose, and the length of the chain of their macromolecules [2]. These investigations gave the authors the idea of the specifically negative influence exercised by glucosan upon the process of the formation of levoglucosan. In order to check this assumption, the influence exercised by the addition of α - and β -glucose on the process of formation of levoglucosan was investigated. The presence of glucose in the thermal decay of cellulose decreases the yield of levoglucosan to 30%, compared to the yield from cellu-

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The Transformation of Cellulose at Increased Temperatures.
Information Nr 6. The Influence Exercised by the Addition
of Levoglucosan in the Thermal Decomposition of Cellulose
in the Vacuum

62-12-18/20

loss of 55-60% at the same conditions. There are 1 figure and
2 Slavic references.

ASSOCIATION: Institute for Organic Chemistry AN USSR imeni N.D.Zelinskiy
and Institute for Wood Products AN USSR (Institut organicheskoy
khimii im. N.D.Zelinskogo Akademii nauk SSSR i Institut lessa
Akademii nauk SSSR).

SUBMITTED: July 5, 1957

AVAILABLE: Library of Congress

Card 2/2 1. Cellulose-Transformations

GOLOVA, O.P.; MAYAT, H.S.

Importance of oxidizing for obtaining woodpulp from plant tissues.
Sum.prec. 32 no.6:10-11 Je '57. (MIRA 10:8)

1. Institut lessa Akademii nauk SSSR.
(Woodpulp industry) (Oxidation)
(Plant cells and tissues)

GOLOVA, O.P.; PAKHOMOV, A.M.; ANDRIYEVSKAYA, Ye.A.

New data on the relation between the structure of polysaccharides (cellulose) and the trend of chemical reactions taking place in a thermal dissociation of these compounds. Dokl. AN SSSR 112 no.3: 430-432 Ja '57. (MLRA 10:4)

1. Institut organicheskoy khimii im. N.D. Zelinskogo Akademii nauk SSSR. Predstavleno akademikom V.A. Karginym.
(Polysaccharides) (Cellulose)

GoLOVA, O. P.

20-6-19/48

AUTHORS: GoLOVA, O. P., Pakhomov, A. M., Andriyevskaya, Ye. A., Krylova, R.G.

TITLE: On the Mechanism of the Thermal Decomposition of Cellulose in a Vacuum and on the Formation of 1,6-Anhydro-1,5-Glucopyranose, a Levoglucosan
(O mekhanizme termicheskogo raspada tsellyulozy v vakume i obrazovanii 1,6-angidro-1,5-glyukopiranozy - levoglyukozana)

PERIODICAL: Doklady AN SSSR, 1957, Vol. 115, Nr 6, pp. 1122-1125 (USSR).

ABSTRACT: Hitherto there did not exist an unequivocal explanation for the formation mechanism of the substances last-mentioned in the title in thermal cellulose decompositions in a vacuum. It is true that this substance has an elementary composition of a structural-unit-member of cellulose, but it has a different hydroxyl position (at C₄ instead of C₅) and possesses 2 oxygen bridges instead of one 1 - 5. A formation mechanism of levoglucosan was suggested by Irvine and Oldham, namely through an intermediate stage of the cellulose hydrolysis as far as glucose and then a dehydration of the latter. Karrer confirmed this hypothesis by high levoglucosan yields from β - d-glucose. The above-mentioned reaction represents a special case of the thermal depolymerization of polysaccharides as far as the monomer. The authors thought it necessary to perform such investigations which are suitable to furnish data for the solution of principal problems. Such principal

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20-6-19/48

On the Mechanism of the Thermal Decomposition of Cellulose in a Vacuum and on the Formation of 1,6-Anhydro-1,6-Glucopyranose, a Levoglucosan.

problems are: 1) To attain a constant yield of levoglucosan in this connection, 2) the possibility of the formation of levoglucosan from β -D-glucose, 3) the influence exerted by the physical structure (compactness of the packing) of cellulose on its thermal decomposition and 5) the influence of the degree of polymerization. The following conclusions were drawn from the results of the work: 1) The small yield of levoglucosan from the thermal decomposition of an easily hydrolyzable cellulose, the glucose and the cellobiose with admixture of glucose, disproves the possibility of the existence of intermediate stages of the glucose-formation and the glucose-dehydration as far as levoglucosan, as an intermediate stage in the formation of levoglucosan from cellulose. These facts do not confirm the conception, spread in publications, on the mechanism of a hydrolytic dehydration-formation of levoglucosan. 2) The substantial yield in the formation of levoglucosan (55-60%) is only attained when a certain chain-length of the cellulose macromolecule exists. Moreover a more compact cellulose-structure (packing) is necessary for this. The formation process of levoglucosan includes

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On the Mechanism of the Thermal Decomposition of Cellulose in a 20-6-1948
Vacuum and on the Formation of 1,6-Anhydro-1,5-Glucopyranose, a Levoglucosan.

the decomposition of the cellulose molecule on the 1,4- β -glucose bonds, as well as a subsequent isomerization of the resulting chain fragment into a levoglucosan molecule. The chief conclusion can be extended to the thermal decomposition of other polysaccharides, and probably also to other types of polymers.
There are 1 figure, 2 tables and 1 Slavic reference.

ASSOCIATION: Institute for Organic Chemistry AN USSR imeni N. D. Zelinskiy and Forestry Institute AN USSR (Institut organicheskoy khimii imeni N. D. Zelinskogo Akademii nauk - Institut lesa Akademii nauk SSSR.).

PRESENTED: By I. M. Nazarov, Academician, June 7, 1957

AVAILABLE: Library of Congress

Card 3/3

Golova, O. P.

AUTHORS: Golova, O. P., and Krylova, R. G.

20-3-19/46

TITLE: Thermal Decomposition of Cellulose and its Structure
(Termicheskiy raspad tsellyulozy i yeye stroyeniye).

PERIODICAL: Doklady AN SSSR, 1957, Vol. 116, Nr 3, pp. 419-421 (USSR)

ABSTRACT: The authors derived new knowledges from the study of the decomposition of cellulose which lead to a series of suppositions concerning the mechanism of the decomposition and the structure of cellulose. This was achieved by admitting the reagent to the compositions in more solidified parts. The used material was cotton cellulose prepared in mild conditions according to Corey and Grey. Its degree of initial polymerization was 2800; and 1500 (Sample number 1 and 2), as well as 700 (sample number 3 obtained from sample number 2 by means of a light hydrolysis). The investigation comprised 1) - Performance of the decomposition, 2) - Production and analysis of its products, 3) - determination of the characteristics of cellulose even after its exposure to heating during a certain period. The methodology is described. A temperature of 300°C which permits a considerable yield of levoglucosan with a sufficiently

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Thermal Decomposition of Cellulose and its Structure 20-3-19/46

decelerated process was determined. The results are summarized in table 1. In the case of thermal decomposition of cellulose the degree of polymerization first declines rapidly. The course taken by the curve varies in each case according to the individual cellulose preparation. After 8 to 10 minutes, a certain critical point is attained in which all 3 curves coincide. With that the degree of polymerization attains a constant value of 200, according to size. With the decomposition continued, only the quantity of cellulose decreases, whereas the molecular weight of the remainder remains stable. Curve 4 describes the dependence of the degree of decomposition of the heating up period. That degree attains 8 to 1 % at the critical point. It is proportional to the heating up period with all samples. Curves 5 and 6, - dependence of the yield of levoglucosan on the heating up period, - show that after the critical value of the period (degree of polymerization approx. 200) has been attained, the yield of levoglucosan increases rapidly for subsequently attaining a constant value. Based upon these new knowledge, the following mechanism of decomposition can be imagined: Chain molecules are torn and fragments with a degree of polymerization of approx. 200 are

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Thermal Decomposition of Cellulose and its Structure 20-3-19/46

accumulated up to the critical point. This signifies that the decomposition takes place first at the periodically placed sections. The dehydration now taking place chiefly, leads to a radical change of the elementary member and to the formation of light volatile products. In the second period (after having exceeded the critical point), the thermal decomposition takes the course of a process of successive chemical conversion of members of the cellulose molecule fragment by splitting up of the elementary member, which, due to an interior isomerization, converts into a monomeric compound, viz.: Levoglucosan. These facts allow the conclusion that the splitting up of the levoglucosan molecule from the chain molecule produces an active center which in return produces an inner isomerization of the following member and the formation of levoglucosan. This process takes place as long as all fragment members are decomposed. The process generated in any chain molecule results thus in the complete decomposition of the molecule. The other molecules remain unchanged in this case. These results prove a periodical structure of the cotton cellulose molecule of sections of various physical structure which

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Thermal Decomposition of Cellulose and its Structure

EO-3-19/46

does not only determine the chemical, thermal and physical behavior of the macro-sample of the cellulose, but also the individual molecule of the latter. There are 1 figure, and 2 references, 1 of which is Slavic.

ASSOCIATION: Institute of Silviculture AN USSR
(Institut lesa Akademii nauk SSSR)

PRESENTED: June 29, 1957, by V. A. Kargin, Academician

SUBMITTED: June 29, 1957

AVAILABLE: Library of Congress

Card 4/4

AUTHORS: ~~Golova, O. P.~~ Merlis, N. M., SOV/62-58-9-18/26
Volodina, Z. V.

TITLE: The Preparation of 1,6-Anhydroglucofuranose by the Vacuum
Pyrolysis of Cellulose (Polucheniye 1,6-angidroglyuko-
furanozy pri termorasfade tsellyulozy v vakuume)

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk,
1958, Nr 9, pp 1127 - 1127 (USSR)

ABSTRACT: Continuing their study of the chemical structure of
the solid distillate prepared by the pyrolysis of
cellulose in vacuum, the authors found that the separating
out a neutral material from the distillate by means
of an anion-exchanger and the isolation of this material
from a laevo-glucosan by crystallization gave a syrupy
product. The investigation of this latter showed that it
contained 1,6-anhydroglucofuranose and did not contain any
polymers. There are 3 references, 1 of which is Soviet.

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The Preparation of 1,6-Anhydroglucofuranose by the
Vacuum Pyrolysis of Cellulose

SOV/62-58-9-18/26

ASSOCIATION: Institut lesa Akademii nauk SSSR (Institute of Wood and
Forestry, AS USSR)

SUBMITTED: March 11, 1958

Card 2, 2

5(3)

AUTHORS:

Epshhtayn, Ya. V., Golova, O. P., Durygina, L. I. SOV/62-59-6-28/36

TITLE:

On the Production of β -1,6-anhydro-1,5-glucopyranose of Levoglucosane by Thermal Decomposition of Cellulose in Superheated Vapor Current and at Low Pressure in the System (O polucheni β -1,6-angidro-1,5-glyukopiranczy-levcglyukozana pri termoraspede tsellyulozy v toke peregretoya para pri ponizhenii davlenii v sisteme)

PERIODICAL:

Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1959, Nr 6, pp 1126 - 1127 (USSR)

ABSTRACT:

The thermal decomposition was mostly carried out in a high vacuum, which made an additional cooling of the apparatus down to -100°C necessary for the condensation of high-volatile products. The present paper gives some experimental results concerning a possible carrying out of the thermal decomposition at low pressure and by the use of heat carriers (superheated vapor or inert gases) which are directly introduced into the reactor. The method developed has several advantages. It makes it possible to remove the air oxygen from the reactor without a change in the remaining pressure, the heat carrier steadily penetrates the cellulose and further serves as a means of accelerated removal of the

Card 1/3

On the Production of β -1,6-anhydro-1,5-glucopyranose of SOV/62-59-6-28/36
 Levoglucosane by Thermal Decomposition of Cellulose in Superheated Vapor Current
 and at Low Pressure in the System

decomposition products from the range of high temperatures. Furthermore, by the presence of the heating gas in the reactor the partial pressure of the high volatile substances which secondarily are formed, and thus the formation intensity of these substances, may be decreased. The vapor was introduced into the reactor with a pressure of 24-30 Hg. The levoglucosane forming was extracted in the vapor current and condensed outside the reactor. In the distillate the levoglucosane and free chemical acids were identified. For the purpose of checking this, the evaporation residues of the distillates were according to the method of Schottern and Baumann in Venn's modification transformed into benzole derivatives (Ref 3), after which the melting points of the products thus obtained were determined. (Table 1). In table 2 data concerning the yield in levoglucosane obtained by other scientists who heated the retort from outside are compiled (Refs 1-4). Table two shows the advantages of the method described here. There are still investigations as to the optimum conditions of this method being carried out. There are 2 tables and 4 references, 2 of which are Soviet.

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On the Production of β -1,6-anhydro-1,5-glucopyranose of SOV/62-59-6-28/36
Levoglucosane by Thermal Decomposition of Cellulose in Superheated Vapor Current
and at Low Pressure in the System

ASSOCIATION: Institut less Akademii nauk SSSR (Forestry Institute of the
Academy of Sciences, USSR)

SUBMITTED: November 18, 1958

Card 3/3

GOLOVA, O.P.; KRYLOVA, R.G.; NIKOLAYEVA, I.I.

Mechanism of the thermal decomposition of cellulose in a vacuum.
Part 1: Comparative study of the thermal decomposition of cotton
cellulose and cellulose hydrate. Vysokom. soed. 1 no.9:1295-1308
S '59. (MIRA 13:3)

1. Institut lesa AN SSSR.
(Cellulose)

GOLOVA, O.P.; KHEKOVA, R.O.; NIKOLAYEVA, I.I.

Mechanism of the thermal decomposition of cellulose in a vacuum. Part
2: Inhibition of the thermal decomposition. Vysokom. soed. 1 no.9:
1305-1308 S '59. (MIRA 13:3)

1. Institut lesa AN SSSR.
(Cellulose)

5 (3)

AUTHORS:

Mayat, N. S., Golova, O. P.

SOV/74-28-9-5/7

TITLE:

The Stability of Polysaccharides in Alkaline Medium

PERIODICAL:

Uspekhi khimii, 1959, Vol 28, Nr 9, pp 1114-1133 (USSR)

ABSTRACT:

The main object of the present paper is the problem concerning the influence of the semi-acetal group on the decomposition of the polysaccharide in alkaline medium and the chemical conversions occurring during decomposition. The analysis and the generalization of data on the conversion of mono-, di-, and poly-saccharides under the action of lyes have shown that their constancy in an alkaline medium, in the absence of oxidizing agents are influenced by one and the same factor, i.e. the presence of a reducing semi-acetal group at the end of the molecule. Owing to its tendency to the formation of enol this group may yield unstable en-dioles of the polyoxy compounds which are exposed to further conversions in the alkaline medium. According to the conditions these conversions may in the case of the monosaccharides result in the following: 1) Epimerisation. 2) Decomposition of the molecule into fragments with a smaller number of carbon atoms. 3) Isomerization in saccharinic acids. The influence of the

Card 1/4

The Stability of Polysaccharides in Alkaline Medium

SOV/74-28-9-5/7

semi-acetal group on the molecules of the di- and polysaccharides chiefly results in the loosening of the glukoside bonds in the close neighborhood. The rate and the intensity of the decomposition and consequently also the loss in weight of the high-molecular polysaccharide (cellulose) is determined by three factors: 1) by the number of the semi-acetal groups, i.e. by the polymerisation degree of the preparation; 2) by the accessibility of the preparation to lyes, i.e. by the density of packing. 3) by the interrelations between the rates of reaction and of destruction and the inhibition, i.e. by the conditions of the effect of the lye. In spite of the characteristics of "destruction from the reducing end" this kind of decomposition differs only slightly from the decomposition of the oxidized polysaccharides under the same conditions. On the contrary, both kinds of decomposition are due to the same reason, i.e. the presence of a carbonyl group capable of enol-formation. The basic difference lies in that the carbonyl groups in the oxidized polysaccharide are distributed not only at the end, but are over the entire chain of molecules. This brings about the decomposition of the latter into fragments. The formation of new semi-acetal-end-

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The Stability of Polysaccharides in Alkaline Medium

SOV/74-28-9-5/7

groups causes the destruction of the molecule from the reducing end. Thus, the decomposition of the oxypolysaccharide into fragments and the "destruction from the reducing end" are closely related and may occur at the same time. "The destruction from the reducing end" should be taken into consideration in the investigation of oxidative decomposition products of the polysaccharides, in the determination of functional groups in polysaccharides and their products of decomposition, and in the determination of the molecular weight of polysaccharides in alkaline medium. They must also be taken into account in the precipitation of cellulose from vegetable tissue, and in the processing of cellulose in an alkaline medium. The destruction from the reducing end, inevitable under these conditions in a major or minor degree, causes considerable losses in the shape of low-molecular substances. A reduction of these losses may - in principle - be obtained by different means: by transformation glucosides, by the reduction or the oxidation of semi-acetal groups and by inhibiting the destruction by means of calcium- and other salts. An important factor for the reduction of the cellulose losses is the maintenance of their high molecular weight in

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The Stability of Polysaccharides in Alkaline Medium

SOV/74-28-9-5/7

the case of the reduction of the molecular weight being connected with the appearance of new, reducing semi-acetal groups. This may be realized in different ways. The following Soviet authors are mentioned: V. I. Ivanov, Ye. D. Kaveranov, Z. I. Kuznetsova, V. M. Berezovskiy, S. N. Danilov, A. M. Gakhokidze. There are 1 table and 85 references, 7 of which are Soviet.

ASSOCIATION:

In-t vysokomolekulyarnykh soyedineniy AN SSSR (Institute of High-molecular Compounds, AS USSR)

Card 4/4

5 (3)
AUTHORS: Golova, O. P., Merlis, N. M., Volodina, Z. V. SOV/79-29-3-52/61

TITLE: Formation of the 1,6-Anhydroglucofuranose During the Thermal Decomposition of Cellulose in Vacuum (Polucheniye 1,6-anhidroglyukofuranozy pri termoraspadе tsellyulozy v vakuumе)

PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 3, pp 997-1000 (USSR)

ABSTRACT: The present paper is the continuation of the investigation of the chemical composition of the solid distillate which is obtained in the case of the thermal dissociation of cellulose in vacuum. This distillate (yield 75%) consists of 70% 1'glucosane and contains carbonyl compounds, acids, their derivatives and phenols. By the application of anionites the products admixed to 1'glucosane could be almost removed (Ref 1). After the following removal of 1'glucosane by recrystallization a syrup-like product was obtained which contained up to 72% substances which had after the hydrolysis a greater reducibility to the anhydride of glucose and a zero rotary power. In the syrup-like product dextrogyrate substances could be assumed beside 1'glucosane, i.e. polymers of 1'glucosane and its isomer, the β -1,6-anhydroglucofuranose. The method of D. Hurd and R. W.

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SOV/79-29-3-52/61
Formation of the 1,6-Anhydroglucofuranose During the Thermal Decom-
position of Cellulose in Vacuum

Liggett which consists in the analytical separation of the mono-, di-, and trisaccharides by distillation in vacuum over their propionates was used in order to detect the presence of polymers (Ref 4). Only the monomerpropionate was found to exist. The 1,6-anhydroglucofuranose was separated in the form of its n-nitrobenzoic ester and characterized by the ultimate analysis, melting point and specific rotary power. It could be identified as the n-nitrobenzoyl derivative of the 1,6-anhydroglucofuranose. The 1,6-anhydroglucofuranose is obtained from cellulose with an approximate yield of 3% (with respect to cellulose). A scheme is suggested as to the formation mechanism of the 1,6-anhydroglucofuranose during the thermal decomposition of cellulose in vacuum. There are 7 references, 1 of which is Soviet.

ASSOCIATION: Institut lesa Akademii nauk SSSR (Forestry Institute of the Academy of Sciences, USSR)

SUBMITTED: January 24, 1958

Card 2/2

5(4)

AUTHORS:

Gatovskaya, T. V., Golova, O. P.,
Krylova, R. G., Kargin, V. A.

SOV/76-33-6-39/44

TITLE:

Investigation of the Sorption Properties of Cellulose in the Process of Its Thermal Disintegration (Issledovaniye sorbtsionnykh svoystv tsellyulozy v protsessе yeye termicheskogo raspada)

PERIODICAL:

Zhurnal fizicheskoy khimii, 1959, Vol 33, Nr 6, pp 1416-1421 (USSR)

ABSTRACT:

The experimental results of a previous paper (Ref 1) point to the fact that the process of thermal disintegration of cellulose (I) in the course of 90 minutes can be divided into two stages with different peculiarities (Table 1). It is assumed that the first reaction stage proceeds in less densely packed (I), whereas in the second reaction stage a higher packing density prevails and the yield of levoglucosane is proportional to this density. To investigate the packing density, a method with the use of sorption isothermals was applied to the present case. The sorption experiments were made on one of the investigation samples (Ref 1) of the cellu-

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Investigation of the Sorption Properties of Cellulose SP-700-33-39/44
in the Process of Its Thermal Disintegration

lose SP-700 which was heated to 300° for 10, 20, 40 and 90 minutes at $1 \cdot 10^{-5}$ mm Hg. The sorption of the steam by (I) decreases with the time of treatment of (I) to a certain value (20 minutes time of treatment) and then remains constant. This points to a condensation of the (I)-packing by a reduction of its polymerization degree (Ref 5). In the first stage of the thermal (I)-disintegration characterized by a sudden rise in the levoglucosane yield, the maximum condensation of the molecule packing of (I) is attained. In a further disintegration of the basic mass of (I), these values remain constant. Thus, the experimental results confirm the previous statements (Refs 6, 7) that the formation of levoglucosane is considerably influenced by the thermal treatment of (I), i. e. its packing density. There are 2 figures, 2 tables, and 7 references, 6 of which are Soviet.

ASSOCIATION: Fiziko-khimicheskiy institut im. L. Ya. Karpova, Moskva; Akademiya nauk SSSR, Institut lesa (Physico-chemical Institute imeni L. Ya. Karpov Moscow; Academy of Sciences of the USSR, Forestry Institute)

Card 2/3

Investigation of the Sorption Properties of Cellulose SOV/76-33-6-59/44
in the Process of Its Thermal Disintegration

SUBMITTED: December 28, 1957

Card 3/3

GOLOVA, O.P.; MAYAT, N.S.; ANDRIYEVSKAYA, Ye.A.

Oxidation mechanism of cellulose and of its approximate models
by atmospheric oxygen. Vysokom. soed. 2 no. 3:337-340 Mr '60.
(MIRA 13:11)

1. Institut less i drevsiny AN SSSR.
(Cellulose) (Oxidation) (Glucosides)

GOLOVA, G.P.; KRUTOVA, R.G.

Thermal depolymerization of cellulose. Dokl. AN SSSR 135 no.6:1391-1394 D '60. (MIRA 13:12)

1. Institut vysokomolekulyarnykh soyedineniy Akademii nauk SSSR.
Predstavleno akademikom V.A. Karginym.
(Cellulose)

GOLOVA, C P

S/062/61/000/007/009/1
B117/B215

AUTHOR:

None given

TITLE:

General Assembly of the Otdeleniye khimicheskikh nauk
Akademii nauk SSSR (Department of Chemical Sciences of the
Academy of Sciences USSR), March 9-10, 1961

PERIODICAL:

Akademiya nauk SSSR. Izvestiya. Otdeleniye khimicheskikh
nauk, no. 7, 1961, 1357-1360

TEXT: This is a report on the meetings of the General Assembly of the
Otdeleniye khimicheskikh nauk Akademii nauk SSSR (Department of Chemical
Sciences of the Academy of Sciences USSR) held on March 9 and 10, 1961 on
the chemistry of cellulose. Professor Z. A. Rogovin reported on new
methods of modifying the properties of cellulose, and mentioned some
trends of research work in this field: (1) Synthesis of new types of
cellulose esters; (2) introduction of new types of functional groups into
the macromolecule of cellulose; (3) synthesis of graft copolymers of
cellulose with polymers containing heterogeneous and carbon chains.
C. P. Golova, Doctor of Chemical Sciences, reported on a "Study of the

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S/062/61/000/007/009/009
B117/B215

General Assembly of the ...

thermal process of cellulose decomposition". Thermal decomposition was studied in two cellulose modifications of different physical structures: cotton cellulose and hydration cellulose. Professor P. V. Kozlov reported on structural characteristics of cellulose and its derivatives. He said that V. A. Kargin, together with a number of other scientists, proved the amorphous structure of these natural polymers. He also mentioned that the ideas on the "package"-type structure of polymers expressed by V. A. Kargin, A. I. Kitaygorodskiy, and G. L. Slonimskiy are of greatest value for the examination of the macrostructure of cellulose and its derivatives. S. N. Danilov, Corresponding Member AS USSR, reported on the "Reactivity of esters of cellulose and chitin". He pointed out that chitin and cellulose supplied esters of great practical value. Their production, however, is still difficult. In his own name and on behalf of P. N. Odintsov, Academician AS Latvinskaya SSR, A. I. Kalnin'sh, Academician AS Latvinskaya SSR, reported on the prospects of development of timber chemistry. He stressed the necessity of finding new methods for the utilization of large timber resources, wood waste and vegetable remains in agriculture, and of rationalizing conventional methods. At the same time, theoretical work in this field is to be intensified. N.N. Shorygina,

Card 2/3

GOLOVA, O.P.; NPSETHIN, Ya.V.; DURYININA, L.I.

Effect of inorganic components on the cleavage of C-C bonds during
the thermal degradation of cellulose. Vysokom.soed. 3 no.4:536-
540 Ap '61. (MIRA 14:4)

1. Institut vysokomolekulyarnykh soyedineniy AN SSSR.
(Cellulose)

KORSEK, V.V.; GOLLOVA, O.P.; SERGEYEV, V.A.; MERLIS, N.M.; SHNEYER, R.Ya.

Polyethers of levoglucosan. Part 1: Polymerization of levoglucosan
and its ethers. Vyankem.sced. 3 no.3:477-485 Mr '61. (MIRA 74:6)

1. Institut elementeorganicheskikh soedineniy AN SSSR.
(Glucopyranose) (Polymerisation)

GOLOVA, O.P.; EPSHTEYN, Ya.V.; SERGEYEVA, V.N.; KALNIN'SH, A.I. [Kalnins, A.];
ODINTSOV, F.N.; MAKSIMENKO, N.S.; PANASYUK, V.G.; Prinimali
uchastkiye: MERLIS, N.M.; DURININA, L.I.; BISENIYETSE, S.K. [Biseniece, S.];
GUNDARS, A.Ya.; FEDORCHENKO, R.I.; MINAKOVA, V.I.

New method for the complete chemical processing of plant tissues.
Gidroliz. i lesokhim. prom. 14 no.7:4-5 '61. (MIRA 14:11)

1. Institut vysokomolekulyarnykh soedineniy AN SSSR (for Golova, Epshteyn, Merlis, Durinina).
2. Institut lesokhozyaystvennykh problem i khimii drevesiny AN Latvyskoy SSR (for Sergeyeva, Kalnin'sh, Odintsov, Bisenietse, Gundars).
3. Krasnodarskiy gidrolisnyy zavod (for Maksimenko, Fedorchenko, Minakova).
4. Dnepropetrovskiy sel'skokhozyaystvennyy institut (for Panasyuk).

(Plant cells and tissues)
(Botanical chemistry)

GOLOVA, G.P.; ERSHTEYN, Ya.V.; SERGEYEVA, V.M.; KALNIN'SH, A.I. [Kalnins, A.];
ODINTSOV, P.N.; MAKSIMENKO, N.S.; PANASYUK, V.G.

Outlook for a new method of complete processing of plant materials.
Gidroliz.i lesokhim.prom. 15 no.3:12-15 '62. (MIRA 15:5)

1. Institut vysokomolekulyarnykh soedineniy AN SSSR (for Golova, Ershteyn).
 2. Institut lesokhozyaystvennykh problem i khimii drevesiny AN Latvyskoy SSR (for Sergeyeva, Kalnin'sh, Odintsov).
 3. Krasnodarskiy gidroliznyy zavod (for Maksimenko).
 4. Dnepropetrovskiy sel'skokhozyaystvennyy institut (for Panasyuk).
- (Wood---Chemistry) (Hydrolysis) (Plant cells and tissues)

MAYAT, N.S.; GOLOVA, O.P.; NIKOLAYEVA, I.I.

Mechanism of cellulose oxidation by atmospheric oxygen in alkaline medium. Chemical composition of the oxidation products. Vysekem.sved. 5 no.6:873-874 Je '63. (MIRA 16:9)

1. Institut vysekemolekulyarnykh soedineniy AN SSSR.
(Cellulose) (Oxidation)

MERLIS, N.M.; ANDRIYEVSKAYA, Ye.A.; VOLODINA, Z.V.; GOLOVA, O.P.

Formation of β -1,6-anhydroglucofuranose in the thermal decompositions
of β -D-glucose in a vacuum. Zhur. ob. khim. 34 no.1:334-336 Ja '64.
(MIRA 17:3)

MAYAT, N.S.; NIKOLAYEVA, I.I.; GOLOVA, O.P.

Mechanism of the oxidative degradation of cellulose in alkaline media.
Part 2: Mechanism of the oxidation of cellulose by molecular oxygen in
an alkaline medium. Vysokom.soed. 6 no.9:1693-1699 S '64.

(MIRA 17:10)

1. Institut vysokomolekulyarnykh soedineniy AN SSSR.

MERLIS, N.M.; VOLODINA, Z.V.; GOLOVA, O.P.

Certain derivatives of β -1,6-anhydroglucopyranoses. Tri-O-ethyl-
and di-O-methyllevoglucosan. Zhur. ob. khim. 34 no.11:3819-3821
N '64. (MIRA 18:1)

2000-55 887(2)/887(1)/T 28
 DOCUMENT NO: 135022611

UR/0190/65/001/009/1619/1625
 661.728-678.01.24

AUTHORS: Golova, O. F.; Nedyk, A. I.; Andreyukaya, Ye. A.; Volkova, L. A.

TITLE: Mechanism of cellulose oxidation with atmospheric oxygen in an alkaline medium. New data on the relation between the physical structure of cellulose and the course of its degradation on oxidation by atmospheric oxygen in an alkaline medium

SOURCE: Vysokomolekulyarnyye soedineniya, v. 7, no. 9, 1965, 1619-1625

TOPIC TAGS: cellulose, oxidation, oxidative degradation, synthetic fiber, x ray diffraction

ABSTRACT: The rate of oxidative decomposition of cellulose in an alkaline medium was studied as a function of its physical structure (the number of the regions of orderly, compact structure and regions of disorderly structure). This work was performed as an amplification of the authors' earlier observations (8b, Izvestiya A. Vys. Prirodnyye. 122, 48 3338, 1963, str. 110). These observations indicated that, when the effect of carbonyl groups upon the oxidative process is

Cont 1/2

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ACCESSION NR: A5022511

9
 oxidized, the decomposition of regenerated cellulose (I) is much more rapid (20-30%) than that of the natural cellulose (II) (6%). It was found by means of x-ray diffraction that the two celluloses, identical in their chemical structure, differ in their degree of order, the natural material having a considerably more orderly structure. Hydrolysis of I with 2% solution of HCl at 100°C for 70 minutes increased the degree of order and reduced the rate of oxidative decomposition to 5%. Decrease of the orderliness in II by treating it with 12% solution of NaOH at 60°C resulted in weight losses of 12-18% upon oxidation. It was established that the oxidative decomposition occurs with participation of hydroxyl groups located in the disordered region, and is accompanied by formation of peroxides. The authors express their gratitude to V. A. Kargin for his participation in evaluation of the results obtained and to V. I. Bayboroda for the specimens of high quality fiber. Orig. art. has 2 tables and 2 figures.

ABSTRACT: Institut vysokomolekulyarnykh soedineniy, AN SSSR (Institute of High Molecular Compounds, AN SSSR).

SUBMITTED: 26 Oct 64

EXCH: DO

SUB CODE: 00, G-C

NO REF SW: 015

ORIGIN: 000

100000

GOLOVA, P., IVANOV, V. Y., PAKHANOV, A. M., ANDRIYEVSKAYA, E. A., and KRILOVA, P. G.

"Thermal degradation of polysaccarides," a paper presented at the 9th Congress on the Chemistry and Physics of High Polymers, 28 Jan-2 Feb 57, Moscow, Forest Research Inst.

B-3,084,395

GOLOVA, E. S.

GOLOVA, E. S. --"The Preparation of the Surface of Offset Plates in Making
Up Press Forms." Min Higher Education USSR. Moscow Polygraphic Inst.
Moscow, 1955. (Dissertation for the Degree of Candidate in
Technical Science).

SO Knizhnyy letopis'
No 2, 1956.

GOLOVA, T.F.

Golova, T.F. "Fossilized plants of the Kanchugak lignite deposit of the Chulymo-Yenesei coal-bearing basin," Trudy Tomskogo gos. un-ta im. Kuybysheva, Vol. XCIX. 1948, p. 75-118 - Bibliog: p. 115-17

SO: U-2888, Letopis Zhurnal'nykh Statey, No. 1, 1949

COLOVA, T. F.

"Jurassic Plants From the Region of the Sobolev Site (Chulymo-Yenisey Coal-Bearing Basin)," Tr. Tojak. un-ta, ser. geol., 132, pp 43-65, 1954

The described flora is represented by 25 species, among which predominate *Cladophlebis*, *Coniopteris*, *Ginkgo*, *Baiera*, *Czekanowskia*. According to their composition they correspond well with the Middle Jurassic floras of Central Asia, Irkutsk, and Kuznets Basins. For the first time the Chulymo-Yenisey Basin has been associated with *Cladophlebis-lobifolia* Phill., *Coniopteris angustiloba* Brick., *Lycopodites tenerrimus* Br., *Czekanowskia latifolia* Tur., *Podocarpites Eichwaldi* Schimper. (Br.) P. cf. *reinii* Geyl., which permits one to outline more precisely the areas of distribution of these species in Siberia. (REhGeol. No 4, 1955)

Sum. No. 581. 7 Oct 55

GOLOVA, T.P. [Golova, T.P.]

On the morphological nature of the ovaries of the Compositae.
Ukr.bot.zhur. 16 no.6:59-69 '59. (MIRA 13:5)

1. Poltavskiy sel'skokhozyaystvennyy institut.
(Ovaries (Botany)) (Compositae)

~~SECRET~~
BELYAYEVA, M.A.; GOLINA, Z.S.; IVANOVA, A.P.; ARUTYUNOVA, K.M.; VOLODIN, N.V.,
redaktor; PORTYANSKIY, B.S., izdatel'skiy redaktor; KATAPOV, M.I.,
tekhnicheskiy redaktor

[Collection of technical texts in the English language; a textbook
for higher schools] Sbornik tekhnicheskikh tekstov na angliiskom
iazyke; uchebnoe posobie dlia vtuzov. Pod red. N.V.Volodina. Moskva,
Izd-vo lit-ry na inostr. iazykakh, 1956. 599 p. (Mik. 10:10)
(Technology)
(English language--Textbooks for foreigners--Russian)

GOLOVA, T. P.

Fruit of wormwood occurring as weeds in the U.S.S.R. Nauch. dokl.
vys. shkoly; biol. nauki no.4:95-103 '63. (MIRA 16:11)

1. Rekomendovana kafedroy botaniki Poltavskogo sel'skokhozy-y-
stvernogo instituta.

*

GOLOVACH, A.

Reconditioning of needle bearings of the cardan crosspiece. Avt.
transp. 39 no.5:53 My '61. (MIRA 14:5)
(Automobiles—Transmission devices)

GOLOVACH, A.

Conversion of payments in kind to monetary income and the collective
farmers demand for merchandise. Sov. torg. 34 no.8:31-33 Ag '61.
(MIRA 14:8)

(Collective farms--Income distribution)
(Marketing research)

GOLOVACH, Aleksandr Fedorovich; BYCHKOV, V.P., red.; SARMATSKAYA, G.I.,
red. ind-vn; PARAKHINA, N.L., tekhn. red.

[Electric power equipment for woodworking industries] Elektrosilovoe
oborudovanie derevoobrabatyvayushchikh predpriyatii. Moskva, Gosles-
buzdat, 1960. 307 p. (MIRA 14:10)
(Woodworking industries) (Electric machinery)

GOLOVACH, A. G.

Golovach, A. G. - "Transplanting large trees with exposed roots", Sbornik materialov po kormuzhal. Khuz-vu, No. 6, 1948, p. 58-65

SO: U-3261, April 10 53, (Letovis 'Zhurnal 'nykh Statey, No. 11, 1946).

1. GOLOVACH, A. O.
 2. USSR (600)
 4. Tree Planting-Leningrad Province
 7. Experiment in transplanting large trees from Pushkin to Leningrad.
Trudy Bot. inst. AN SSSR, Ser. 6 No. 2, 1952
9. Monthly List of Russian Accessions, Library of Congress, March 1953, Uncl.

GOLOVACH, A. G.

USSR 600

Lawns

Improvement of lawns. Priroda 41 No. 3, 1952

9. Monthly List of Russian Accessions, Library of Congress, July 1952. Unclassified.

2

GOLOVACH, A.G.; PARSADANOVA, K.G., redaktor; GUBER, A., tekhnicheskii
redaktor.

[Phenological observations in gardens and parks] Fenologicheskie
nabliudeniia v sadakh i parkakh. Izd. 2-3. Moskva, Gos. izd-vo
"Sovetskii nauka," 1955. 55 p. (MLRA 8:8)
(Phenology)

GOLOVACH, A.G.; RAGULSKIY, Ya.V.

Behavior of some Michurin fruit varieties in Leningrad. Trudy
Bot.inst.Ser.6 no.4:129-138 '55. (MIRA 9:2)
(Leningrad--Fruit culture)

GOLOVACH, A.G.

Creation and maintenance of beautiful flowering plots. Trudy
Bot.inst.Ser.6 no.4:195-231 '55. (MIRA 9:2)
(Plants, Decorative)

DUBYAGO, T., professor; GOLOVACH, A., kandidat biologicheskikh nauk.
GOLUBEV, V.

Planning municipal parks. Zhil.-kom.khoz. 6 no.4:29 '56.

(MLBA 9:8)

(Parks)

ARTYUSHENKO, Z.T.; VASIL'YEV, I.V.; GEYRYAN, M.S.; GOLOVACH, A.G.; GRUBOV,
V.I.; ZAMETNIN, B.M.; PIDOTTI, O.A.; PILIPENKO, F.S.; POLSTIKO,
O.M., kand.biolog.nauk; RODIONENKO, G.I.; RUSANOV, F.N.; SAAKOV,
S.G.; SOKOLOV, S.Ya., prof., doktor biolog.nauk, red.; FEDOROV,
A.I.A.; SEIPCHINSKIY, N.V. [deceased]; SHUL'GINA, V.V.; SHUKHOBODSKIY,
B.A.; GOLOVIN, M.I., red. izd-va; KRUGLIKOVA, N.A., tekhn.red.

[Trees and shrubs of the U.S.S.R.; wild, cultivated, and promising
exotic trees and shrubs] Derev'ia i kustarniki SSSR; dikorastushchie,
kul'tiviruemye i perspektivnye dlia introduktsii. Moskva. [Vol.4.
Angiosperms: Leguminosae - Punicaceae] Pokrytosemnyye: Semeiatva
bobovye-granatovye. 1958. 973 p. (MIRA 11:12)

1. AN SSSR. Botanicheskiy institut.
(Angiosperms) (Trees) (Shrubs)

GOLOVACH, A.G.

Plant labelling in botanical gardens suitable for large masses of
visitors. Trudy Bot. inst. Ser.6:201-208 '58. (MIRA 11:10)
(Botanical gardens) (Labels)

GOLOVACH, A.G.

[Landscaping of rural settlements] Ozelenenie sel'skikh
naselennykh mest. Moskva, Gos.izd-vo sel'khoz.lit-ry, 1959.
157 p. (MIRA 13:10)
(Landscape gardening)

GOLOVACH, A.G.; GRUBOV, V.I.; ZAMYATIN, B.N.; LINCHESKIY, I.A.; PETIAYEV,
S.I.; PIDOTI, O.A.; FILIPENKO, F.S.; POLETIKO, O.M.; RODIONENKO,
G.I.; SAKOV, S.G.; SELIVANOVA-GORONKOVA, Ye.A.; SOKOLOV, S.Ye.,
prof., doktor biolog.nauk; SHIPCHINSKIY, N.V. [deceased]; BELKINA,
M.A., red.izd-va; ELNIKH, N.Yu., tekhn.red.

[Trees and shrubs of the U.S.S.R.; wild and cultivated species and
plants considered for prospective introduction] Derev'ia i kustar-
niki SSSR; dikorastushchie, kul'tivirovanye i perspektivnye dlia
introduktsii. Moskva, Vol.5. [Angiosperms: myrtle and olive families]
Pokrytosemennye: Semeiatva mirtovye-malinovye. 1960. 543 p.
(MIRA 13:12)

1. Akademiya nauk SSSR. Botanicheskiy institut.
(Myrtle) (Olive) (Plant introduction)

GOLOVACH, A., nauchnyy sotrudnik

Landscape the villages! Nauka 1 pered.op.v sel'khoz. 9 no.1:
73-74 Ja '59. (MIRA 13:3)

1. Botanicheskiy institut imeni V.L.Komarova.
(Landscape gardening)

GOLOVACH, A.G.

Scientific and practical activities at the Botanical Institute of
the Academy of Sciences of the S.S.S.R. Bot. zhur. 46 no. 2:297-
306 P '61. (MIRA 14:2)

1. Botanicheskiy institut im. V.L. Komarova Akademii nauk
SSSR, Leningrad.

(Botanical research)

MAL'KO, Ivan Matveyevich; GOLOVACH, A.G., red.; DOLGOVA, K.N., red.
1st-vn; KHENOKH, F.M., tekhn. red.

[Construction and care of gardens and parks] Sudovo-parkovoe
stroitel'stvo i khoziaistvo. Izd.3., ispr. i dop. Moskva,
Izd-vo M-va kommun.khoz. RSFSR, 1962. 199 p. (MIRA 16:1)
(Landscape architecture)

MAL'KO, Ivan Matveyevich; GOLOVACH, A.G., kand. biol. nauk,
nauchn. red.

[Gardens in yards and within residential areas] Dvorovye i
vnutrikvartal'nye sady. Leningrad, Stroiizdat, 1965. 76 p.
(MIRA 18:3)

CHYZDOV, Boris Vladimirovich, prof., doktor biol. nauk;
GOLYACH, A. E., kand. biol. nauk, rezensent; AKIMOV,
P. A., dokt., kand. sel'khoz. nauk, otv. red.;
AKPILOGOV, A. V., red.

(How to make a herbarium; collection and drying of plants.
Textbook for students of the forestry faculty) Kak sostav-
liat' gerbarii; sbor i zasushivanie rastenii. Uchebnoe po-
sobie dlia studentov lesokhoziaistvennogo fakul'teta. Le-
ningrad, Vses. nauchnyi lesotekhn. in-t, 1964. 66 p.
(MIRA 18:7)

GOLOVACH, Anatoliy Varfolomeyevich [Golovach, A.V.]; IVANITSKIY, Vladimir
Mikhailovich [Ivanyts'kyi, V.I.]; RUBANOVSKIY, P.M. [Rubanovs'kyi, P.M.],
otv. red.; SKRIPNIK, V.T. [Skrypnyk, V.T.], red.

[Commodity and monetary relations during the period of large-scale
building of communism] Tovarno-hroshovi vidnosyny v period rozhormu-
toho budivnytstva komunizmu. Kyiv, 1961. 46 p. (Tovarystvo dlia
poshyrennia politychnykh i naukovykh znan' Ukrain's'koi RSR. Ser.3,
no.3) (MIRA 14:7)

(Russia—Commerce)

TERESHCHENKO, I.P.; MOSKVIN, O.I.; DARAGAN, M.V.[Darahan, M.V.];
 ANISIMOV, V.P.; YARMOLINSKIY, M.R.[Iarmolyns'kyi, M.R.];
 BULGAKOV, P.S.[Bulhakov, P.S.]; KUTS, V.K.; KASHPUR, A.V.;
 VASILENKO, G.K.[Vasylenko, H.K.]; KUKOLEV, V.D.[Kukoliev,
 V.D.]; SIGOV, S.G.[Sihov, S.H., deceased]; NAGIRNYAK, P.A.
 [Nahirniak, P.A.]; VETCHINOV, I.A.[Vietchynov, I.A.];
 ZADOROZHNYI, V.K.; DROSOVSKAYA, L.I.[Drosovs'ka, L.I.];
 SHKITINA, M.I.; PROSHCHAKOV, O.M.; MOKIYENKO, B.F.
 [Mokiienko, B.F.]; GOLOVACH, A.V.[Holovach, A.V.];
 IVANITSKIY, I.V.[Ivanyts'kyi, I.V.]; KOZAK, V.Ye.;
 BORYAKIN, V.M., red.izd-va; NESTERENKO, O.O., glav. red.;
 DAKHNO, Yu.B., tekhn. red.

[National income of the Ukrainian S.S.R. during the period
 of the large-scale building of communism] Natsional'nyi
 dokhod Ukrain's'koi RSR v period rozhnromutoho budivnytstva
 komunizmu. Red.kol.: O.O.Nesterenko ta inshi. Kyiv, Vyd-
 vo AN URSR, 1963. 333 p. (MIRA 16:12)

1. Akademiya nauk URSR, Kiev. Instytut ekonomiky.
 (Ukraine--Income)

GOLOVACH, G.G., Cand. Med. Sci., — (diss) "Data on the question on layered
x-ray investigation of lumbosacral region of the spine," Leningrad, 1961, 15
pp (Leningrad Sanitary Hygiene Medical Institute), 300 copies (KL-Supp 9-61, 189)

GOLOVACH, I.K. [Holovach, I.]

Physicogeographical features of the tourist route "Across the
Carpathian woodlands." Geog. zbir. no.6:165-175 '62.

(MIRA 15:9)

(Transcarpathia--Physical geography)

GOLOVACH, I.K. [Holovach, I.K.]

Information. Geog. zbir. no.6:207-209 '62.

(MIRA 15:9)

1. Uchenyy sekretar' Ukrainskogo geograficheskogo obshchestva.
(Ukraine--Geographical societies)

GOLOVACH, I.K.

One-hundredth anniversary of Academician Georgii Nikolaevich
Vysotskii's birth, 1865-1940. Izv. AN SSSR. Ser. geog. no.5:137-
138 S-O '65. (MIRA 18:10)

YASKOL'DOVICH, N.V.; GOLOVACH, N.N.

Induction vulcanizer. Ugol' 36 no.7:30 J1 '61. (MIRA 15:2)
(Vulcanization) (Coal mines and mining--Equipment and supplies)

GOLOVACH, P.Y.

Achieved successes will be strengthened and increased, and the seven-year plan will be fulfilled ahead of time. Ugol' Ukr. no.6: 22-24 Je '60. (MIRA 13:7)

1. Upravlyayushchiy trestom Shezhnyanatratsit.
(Donets Basin--Coal mines and mining--Labor productivity)

GOLOVACH, S.

GOLOVACH, S.

Our engagements have been met. Za rul. 15 no.7:3 J1 '57. (MLBA 10:9)

1. Nachal'nik Ramenskogo Avtomotokluba.
(Ramenskoye--Automobiles--Societies)

GOLOVACH, V.K.

S/194/61/000/012/010/097
D209/D303

AUTHORS: Sevast'yanov, V. V., Likhterov, I. M., Petukhov, V.M.,
Sherman, B. P., Fedotov, V. K. and Golovach, V. K.

TITLE: Introducing level-meters to nonferrous metallurgy
plants

PERIODICAL: Referativnyy zhurnal, Avtomatika i radioelektronika,
no. 12, 1961, 31, abstract 12A229 (Radioakt. izotopy i
yadern. izlucheniya v nar. kh-ve SSSR. V. 3, M., Gos-
toptekhindat, 1961, 162-164)

TEXT: Described is a high sensitivity positional level-meter (L)
type $\gamma\Gamma-1013$ (URP-1013) for signalling attainment of the degree of
separation between two substances of different densities without
direct contact with the system under investigation. The separation
is determined by recording the change of intensity of γ -radiation
passing through the mixture. The instrument consists of a power
unit, four radiation sources and four radiation receivers. Various
installation methods of L are described, depending on the proper-

Card 1/2

Introducing level-meters ...

S/194/61/000/012/010/097
D209/D303

ties of the mixture. Installation diagrams of L are given. The application of L to the bins of a crushing-agglomerating plant resulted in its automation. There are 2 figures. [Abstractor's note: Complete translation.]

Card 2/2

KHACHATRYANTS, I.T.; OVCHINNIKOV, E.V.; GOLOVACH, V.N.;
MITRACOVICH, T.M.; DROZD, G.V.; ~~LENNIKOV, N.G.~~
VLADIMIROV, L.A.

[Small-scale mechanization in the construction industry
and its effectiveness] Malaja mekhanizatsiia stroitel'-
stve i ee effektivnost'. Minsk, Izd-vo M-va vysshego,
srednego spetsial'nogo i professional'nogo obrazovaniia
BSSR, 1963. 33 p. (MIRA 17:8)

GZHITSKIY, S.Z. [Hshyts'kiy, S.Z.]; SUKHOMLINOV, B.P.; ~~GOLOVACH, V.M.~~
[Holevach, V.M.]; PALFIY, F.Yu. [Palfii, F.IU.]; SKOVHONSKAYA, Ye.V.
[Skovhons'ka, Ye.V.]

Biochemical indices of blood in local coarse-wool sheep and their
hybrids with French Merinos. Pratsi Inst. agrobiol. AN URSR
2 pt. 1:5-12 '53. (MIRA 11:7)
(~~SHEEP~~---PHYSIOLOGY) (BLOOD---ANALYSIS AND CHEMISTRY)

OSHITS'KIY, S.Z.; SUKHOMLINOV, B.F.; GOLOVACH, Y.M.; PUNIN, I.G.

Hematuria in cattle. Dep.AN USSR no.6:608-611 '55. (MLRA 9:7)

1.Chlen-korespondent AN USSR (for Oshits'kiy)
(Cattle--Diseases)

GOLOVACH, V. N.

GOLOVACH, V. N. --"Indexes of Protein-Carbohydrate Metabolism in the Blood of Cows Infected with Chronic Hematuria." Min Higher Education USSR, L'vov, 1956. (Dissertation for the Degree of Candidate in Biological Sciences.)

So.: Knizhnaya Litopis', No 7, 1956.

USSR / Diseases of Farm Animals. Diseases of Unknown Etiology R

Abs Jour: Ref Zhur-Biologiya, No 16, 1958, 74246

Author : Gzhits'kiy, S.Z.; Sukhomlinov, B.F.; Golovach, V.M.;
Pupin, I.G.; Palfiy, F. Yu.; Kusen', S.I.

Inst : Not given

Title : Course and Nature of Chronic Hematuria in Cattle

Orig Pub: Inform. byul. Nauk.-dosl. in-t zemlerobstva i
tvarinnitstva zakhidn. rayoniv URSR, 1956, vip.1, 35-36

Abstract: It is shown that the causative agent of the disease
is a live organism which belongs either to fungi
or protozoa, or to bacteria of cellulose fermenta-
tion. Falling into the rumen with feed, this or-
ganism survives there and secretes products of vi-
tal activity which infect the mucosa of the urinary

Card 1/2

USSR / Diseases of Farm Animals. Diseases of Unknown Etiology R
Abs Jour: Ref Zhur-Biologiya, No 16, 1958, 74246

bladder. The introduction of the contents of the rumen of sick cows into the rumen of healthy cows (by means of a rumenotomy) caused the appearance in their urinary sediment of both cellular elements of the urinary tracts and erythrocytes, the quantity of which in several cases reached 200-400 in the field of vision. The introduction of the contents of the rumen of healthy cows into the rumen of sick ones decreased hemorrhaging in the latter and increased their lifespan. Transfer of healthy cows into an area infected with meaturia led to the appearance of the first signs of the disease in them in four to five months. -- A. G. Lomova

Card 2/2

GZHITSKIY, S.Z.[Hshyts'kyi, S.Z.]; SUKHOMLINOV, B.F.; GOLOVACH, V.N.[Golovach, V.N.]; PALFIY, P.Yu.

Effect of lactation on the biochemical composition of blood in
local black-and-white cows. Pratsi Inst. agrobiol. AN URSR 3 no.2:3-
17 '56. (MIRA 11:7)

(Lactation)
(Blood--Analysis and chemistry)
(Cows)

GZHITSKIY, S.Z. [Hshyts'kyi, S.Z.]; SUKHOMLINOV, B.F.; POLOVACH, V.H. [Holovach, V.M.];
SKOVRONSKAYA, Ye.V. [Skovrons'ka, Ye.V.]

Characteristics of carbohydrate metabolism in swine. Pratsi Inst.
agrobiol. AN URSR 3 no. 2:39-44 '56. (MIRA 11:7)
(Swine--Physiology)
(Carbohydrate metabolism)

OZHITSKIY, S.Z. [Kshyts'kyi, S.Z.]; GOLOVACH, V.N. [Holovach, V.N.]; PUPIN,
I.G. [Pupin, I.H.]

Chronic hematuria in cattle. Pratsi Inst. agrobiol. AN URSR 3
no. 2:48-54 '56. (MIRA 11:7)

(Hematuria)
(Cows—Diseases and pests)

GOLOVACH, V.N.[Golovach, V.M.]; PUPIN, I.G.[Pupin, I.H.]

Glucose consumption during hematuria in cattle. Pratsi Inst.
agrobiol. AN URSR 3 no. 2:65-67 '56. (MIRA 11'7)
(Hematuria)
(Cows—Diseases and pests)
(Blood sugar)

USSR/Diseases of Farm Animals - Diseases of Unknown Etiology.

R-3

Abs Jour : Ref Zhur - Biol., No 4, 1958, 16940

Author : Gshitskiy, S.Z.; Golovach, V.N.; Pupin, I.G.; Palfiy, F.Yu.; Kusan', S.I.

Inst :

Title : On the Etiology of Chronic Hematuria of Cattle.

Orig Pub : Veterinariya, 1957, No 5, 44-46.

Abstract : The authors consider that the soil, water, and feed composition have no influence upon the development of hematuria. This is supported by the fact that the transfer of sick animals to some other place has no effect on the course of disease, and that disease occurs in countries with different soils and different fodder vegetation. According to the authors' opinion, the etiological agent of hematuria of cattle is to be looked for in some microorganisms of the soil. It is possible that these

Card 1/2

GOLOVACH, V.M. [Golovach, V.M.], kand.biolog.nauk

Nitrous substances in the rumen of cattle. Visnyk sil'hosp.nauky 4
no.8:111-113 Ag '61. (MIRA 14:7)

1. Nauchno-issledovatel'skiy institut zemledeliya i skotovodstva
zapadnykh rayonov USSR.
(Rumen) (Cattle—Feeding and feeds)

VASILEVSKIY, P.F.; GOLOVACH, Yu.Yu.

Designing gating systems for steel castings with pouring from
a bottom-pour ladle. Lit.proizv. no.10:24-28 O '64.

(MIRA 18:4)

BEDULYA, P.N. • SOLOVACH, Ya.Ye.

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upper nozzles. Izv. vuzov. Fizika. Ser. 8
no. 11 (1986) 163-165. (MIRA 18:11)

1. Much weaker as density increases and viscosity increases.

BIDULYA, P.K., doktor tekhn.nauk; VASILEVSKIY, P.F., kand.tekhn.nauk; GOLOVACH,
Ku.Yu., inzh.

Investigating the crystallization and the flow of liquid steel in
gating system channels. Lit. proizv. no.7:19-21 JI '65.

(MIRA 18:8)